

## **ABSTRACT**

**Introduction:** Orientation of dental casts within an adjustable is facilitated by using a face-bow to record the orientation of maxillary arch relative to a subject's transverse hinge axis of the mandible. The accuracy of the orientation of the occlusal plane of maxillary cast to the articulator through face-bow transfer can be assessed by comparing the angle formed by the Frankfort horizontal plane-occlusal plane in a lateral cephalogram. Occlusal cant may vary with different facial types which is determined by facial index. According to this classification system, numerical values are assigned which establish categories i.e. euryprosopic, mesoprosopic and leptoprosopic.

The present study was undertaken to determine the accuracy of transferring occlusal cant of dentulous subjects having three different face forms using face-bows of two semiadjustable articulator systems by comparing it with the angle value in lateral cephalogram.

**Keywords:** Occlusal plane, Occlusal cant, Semi-adjustable articulators, Face-bow transfer, Lateral cephalograms, Different Face forms.

**Aim:** This study is intended to evaluate the sagittal inclination of mounted maxillary casts using face-bow of two semi-adjustable articulator systems in comparison to the occlusal cant on lateral cephalogram in subjects with different facial types.

**Materials and methods:** 30 Dentate subjects were selected as per predetermined criteria. They were grouped according to their Prosopic index values into three groups as Euryprosopic, Mesoprosopic, and Leptoprosopic facial form. Then

two sets of face-bow records were transferred to Hanau wid-vue and Bio-art articulator and the angle was measured between upper member of articulators and occlusal plane of oriented and mounted casts. Lateral cephalograms were obtained for all the subjects. Tracings were performed digitally for all of these radiographs using SIDEXIS software and OP-FH angle measured and values compared with those obtained from the articulators.

**Results:** It was identified that in between all the three types of face form, occlusal cant varies and significant positive correlation between occlusal cant values between Hanau and lateral ceph. There is no statistically significant difference was found in the occlusal cant values between Hanau and Lateral cephalogram ( $p>0.05$ ) in any groups. But significant values were found in occlusal cant values between Bio-art articulator and Lateral cephalogram in all the group and also between Hanau and Bio-art articulator in all the three face forms.

**Conclusion:** The study was based upon the hypothesis that in individuals of different facial types will be having variable distance between facial landmarks which may result in discrepancy in the accurate face-bow transfer record. The face-bows used in this study were having two different third points of reference. Spring bow of Hanau articulator uses orbital pointer whereas, Elite face-bow of Bio-art uses Nasion guide. From the occlusal cant values obtained from the lateral ceph. for all the three groups, it can be concluded that the values obtained from the Hanau is much closer to the ceph. value than Bio-art. Hence the face-bow record transferring is more accurate with Hanau articulator system.